



# UNITED STATES PATENT AND TRADEMARK OFFICE

877

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/614,267	07/02/2003	Russell E. Abbink	US0069.US2	7777
41868	7590	08/11/2004	EXAMINER	
INLIGHT SOLUTIONS, INC. 800 BRADBURY, SE ALBUQUERQUE, NM 87106			CONNOLLY, PATRICK J	
			ART UNIT	PAPER NUMBER
			2877	

DATE MAILED: 08/11/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/614,267

Applicant(s)

ABBINK, RUSSELL E.

Examiner

Patrick J Connolly

Art Unit

2877

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 03 June 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-41 is/are pending in the application.
- 4a) Of the above claim(s) 41 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-40 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Election/Restrictions*

Claim 41 is withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on June 03, 2004.

### *Claim Rejections - 35 USC § 112*

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-23 and 34-36 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1-23 and 34-36 recite the limitations “path-one” and “path-two” OPD elements. It is unclear what is meant by these limitations. The specification fails to provide a definition for a “path-one” or “path-two” OPD element.

The following action is based on the claims as best understood by the examiner.

### *Claim Rejections - 35 USC § 102*

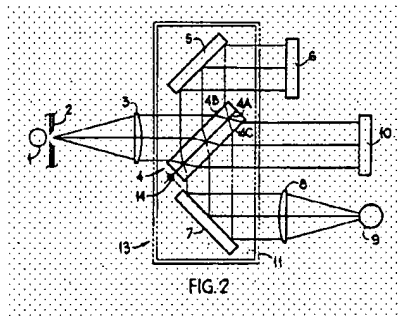
The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-4, 6, 8-21 and 23 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by U.S. Patent No. 4,684,255 to Ford.

As to claims 1, 20, 23 Ford discloses an interferometer including (see Figure 2 below):



a beamsplitter (4A);

a first reflective element (10);

an OPD element (between 4B and 4A); and

a second reflective element (6).

As to claim 2, Ford discloses a beamsplitter with identical optical characteristics to the refractive element (see column 8, lines 1-12).

As to claim 3 and 4, Ford discloses an input and output port to the interferometer.

As to claims 6, 8-12, 14 and 21, Ford discloses a refractive element (between 4B and 4A) mounted in such a way that the thickness of the element and its angle with respect to the optical path will be non-parallel, substantially perpendicular and variable through rotation about point 14 (see also Figure 3).

As to claim 13, Ford discloses a coated refractive element.

As to claim 15, Ford discloses the light encountering the reflective surfaces at a substantially normal angle of incidence.

As to claims 16-19, Ford discloses an OPD element in the first optical path and the second optical path (between 4C and 4A).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

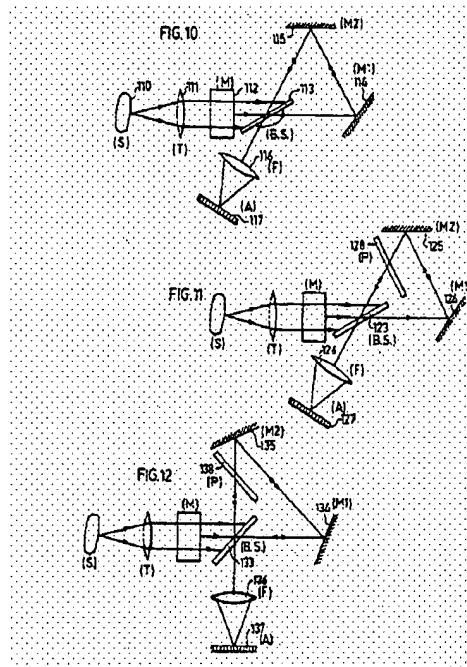
(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 4,684,255 to Ford.

As to claim 5, while Ford does not teach combining the input port and the output port of the interferometer, it would have been obvious to one of ordinary skill in the art at the time of invention to do so in order to achieve a compact, space efficient configuration of the interferometer.

Claims 24-26, 28-37 and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,539,517 to Cabib et al. (hereafter Cabib).

As to claims 24-26, 28-37 and 40, Cabib teaches a method and apparatus for generating interferometric information including (see Figures 10-12 below):



two reflective elements, defining two optical paths with the beamsplitter (M1, M2);  
 an element for varying optical path lengths (Figure 10, B.S.); and  
 an OPD element (Figures 11 and 12, P).

While Cabib does not teach placing the OPD element in between the two reflective elements, it would have been obvious to one of ordinary skill in the art at the time of invention that the element could be placed at any point in the Sagnac configuration in order to achieve a change in both optical path lengths.

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 4,684,255 to Ford as applied to claim 1 above, and further in view of U.S. Patent No. 4,190,366 to Doyle.

As to claim 7, Doyle teaches a refractively scanned interferometer including a wedge for OPD variation.

Art Unit: 2877

It would have been obvious to one of ordinary skill in the art at the time of invention to incorporate the refractively scanning wedge into the interferometer of Ford in order to vary optical path distance.

Claims 27 and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,539,517 to Cabib et al. as applied to claim 24 above, and further in view of U.S. Patent No. 4,190,366 to Doyle.

As to claims 27 and 38, Doyle teaches a refractively scanned interferometer including a wedge for OPD variation.

It would have been obvious to one of ordinary skill in the art at the time of invention to incorporate the refractively scanning wedge into the interferometer of Cabib in order to vary optical path distance.

### ***Double Patenting***

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Art Unit: 2877

Claims 22 and 39 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 31 of copending Application No. 10/342,578. Although the conflicting claims are not identical, they are not patentably distinct from each other because the scope of copending claim 31 is broader than that of pending claims 22 and 39, and therefore already covers the claims' limitations.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.



Any inquiry concerning this communication or earlier communications from the examiner should be directed to Patrick J Connolly whose telephone number is 571.272.2412. The examiner can normally be reached on 9:00 am - 7:00 pm Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory J Toatley, Jr. can be reached on 571.272.2059. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

pjc/pjL



**Samuel A. Turner**  
**Primary Examiner**